

## DOCUMENT RESUME

ED 092 000

HB 005 559

AUTHOR Munday, L. A.; Davis, J. C.  
TITLE Varieties of Accomplishment After College:  
Perspectives on the Meaning of Academic Talent. ACT  
Research Report No. 62.  
INSTITUTION American Coll. Testing Program, Iowa City, Iowa.  
Research and Development Div.  
PUB DATE Mar 74  
NOTE 23p.  
AVAILABLE FROM ACT Publications, P.O. Box 168, Iowa City, Iowa 52240  
(\$1.00)

EDRS PRICE MF-\$0.75 HC-\$1.50 PLUS POSTAGE  
DESCRIPTORS \*Academic Achievement; \*College Graduates; Creative  
Activities; \*Higher Education; Individual  
Development; Research Projects; Skill Development;  
\*Success Factors; \*Talent Development; Young  
Adults

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**62**

March 1974

0002000  
ED 092000

**VARIETIES OF ACCOMPLISHMENT  
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TALENT**

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PUBLISHED BY THE RESEARCH AND DEVELOPMENT DIVISION

THE AMERICAN COLLEGE TESTING PROGRAM



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Recent studies show high school nonacademic accomplishments to be independent of academic talent, and to be related to similar kinds of college nonacademic accomplishments. College grades, however, have not been shown to be related to later-life accomplishments. The research reported here focuses on the accomplishments of young adults 2 years after college, and relates college admission data to these accomplishments. The adult accomplishments were found to be uncorrelated with academic talent, including test scores, high school grades, and college grades. However, adult accomplishments were related to comparable high school nonacademic accomplishments. This suggests that there are many kinds of talents related to later success which might be identified and nurtured by educational institutions. As we evaluate college outcomes in terms of postcollege student behaviors, we may have to reappraise the central role previously assigned academic talent.

## VARIETIES OF ACCOMPLISHMENT AFTER COLLEGE: PERSPECTIVES ON THE MEANING OF ACADEMIC TALENT

Leo A. Munday and Jeanne C. Davis

After many decades of educational measurement, the nature of human talent still eludes precise definition. Achievement tests may faithfully reflect the immediate results of academic instruction, but the later-life correlates of academic talent, and academic instruction for that matter, have not been adequately investigated. Researchers who have assumed academic talent was largely genetically determined on the one hand, or environmentally acquired on the other, have alike often assumed that academic talent had a substantial relationship with important adult accomplishments. In an example from the popular press, Herrnstein (*Atlantic Monthly*, 1971) puts forth the argument that academic ability is related to later-life success and this makes ability a foundation of, and rationalization for, social stratification. Most people probably think academic ability is substantially related to later-life success, and this tends to exaggerate for them the role of academic tests and grades as passports to adult success.

Several previous ACT studies bear on the relation between academic and other kinds of talent, and it is the purpose of this report to summarize them, to extend them by exploring predictive relationships over a prolonged time period, and to trace briefly the implications of this series of studies for our concept of talent.

Our research experience may be summarized as follows:

1. Nonacademic accomplishments, so-called because they are accomplishments outside the classroom, may be assessed by presenting checklists of related activities and asking students to indicate those activities in which they have engaged.

ACT included high school nonacademic accomplishment scales as a part of the Student Profile Section (SPS) when the SPS was first introduced in the fall of 1964 to complement the ACT Tests in the ACT Assessment. Areas of nonacademic accomplishment for which scales were developed included Leadership, Music, Speech, Art, Writing, and Science, each scale containing eight related items.<sup>1</sup> Test-retest reliabilities for these scales ranged from .54 to .77, KR20 reliabilities from .63 to .88 (ACT *Technical Report*, 1965). Items illustrative of non-academic accomplishment are as follows: was elected to one or more student offices; played in a school musical organization; placed first, second, or third in a regional or state speech or debate contest; exhibited a work of art at my school (painting, sculpture, etc.); edited a school paper or yearbook; and did an independent scientific experiment (not a course assignment). The elements of these scales, reflecting as they do significant behaviors during the high school years, are socially valued in and of themselves.

2. Academic talent as assessed by test scores, high school grades, and college grades, tends to be independent of nonacademic accomplishments (Holland & Richards, 1965; Richards, Holland, & Lutz, 1966). The matter, however, has not been without controversy (Werts, 1967; Holland & Richards, 1967). The negligible relationship between academic talent and nonacademic accomplishment cannot be attributed to having a narrow

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<sup>1</sup>As an historical note, starting in the fall of 1969, the scales were reduced from eight to seven items by omitting the one item on each scale with the lowest frequency of response.

range of talent represented in the various studies, or to the existence of nonlinear relationships. Likewise, the low correlation between academic talent and nonacademic accomplishment is not the result of student exaggeration of their accomplishments or of combining students with different vocational interests (Holland & Richards, 1966). Some items of nonacademic accomplishment are more related to academic talent than others, of course, though generally the relationships are slight (Elton & Shevel, 1969).

3. Nonacademic accomplishment in high school tends to be predictive of a similar kind of nonacademic accomplishment in the first and second year of college. While test scores and high school grades are predictive of grades in the first and second year of college, nonacademic accomplishment in high school is not predictive of college grades, and similarly test scores and high school grades are not predictive of college nonacademic accomplishment (Richards, Holland, & Lutz, 1966; Richards & Lutz, 1967). Further, the various areas of nonacademic accomplishment are relatively independent of one another. A student with high school accomplishment in one area will generally achieve in college in the same area.

4. The items of nonacademic accomplishment are, by and large, being accurately reported by students in the SPS and presumably later in research surveys of college and later-life accomplishment. Maxey and Ormsby (1971) compared student-reported with school-reported information on the nonacademic accomplishments in the SPS and found a high degree of agreement. The percentage of agreement varied from item to item but it was generally in the range of 80 to 90%. Accuracy of student reporting did not vary systematically with student background characteristics.

5. College grades do not appear to be related to significant adult accomplishment. Hoyt (1965) reviewed a number of research studies and reported findings that college grades were unrelated to success in occupations college graduates enter such as scientific research, engineering, teaching,

business, and medicine. Though a certain level of academic talent may be necessary to complete medical school, for example, the grades of medical students appear unrelated to later success as physicians. We conclude academic talent as measured by test scores, high school grades, and college grades is not related to significant adult accomplishment.

Hoyt cites several problems inherent in research relating college grades to postcollege success. First, research has concentrated on limited vocational criteria and not on other aspects of success such as aesthetic appreciation or quality of family life. Second, the range of academic achievement is obviously curtailed in studies of college graduates. Third, criterion definition has posed a problem since a criterion of success that would be appropriate for many different occupations would be desired but is not attainable. Fourth, the question of *when* to assess adult accomplishment is a problem, because if one assesses soon after college graduation, people have not had time to settle into their adult roles and establish records of achievement, and if one assesses a long time after college graduation, postcollege factors have increased opportunity to affect later accomplishment. The greater the number of years between the precollege and postcollege assessments, the lower will be the correlation between the two. We note that all of these problems tend to reduce the relationship one might expect to find between any measures obtained at college admission and measures of postcollege success. Therefore, we would expect low correlations and would consider moderate ones to be unusual.

Put simply, the research by Holland, Richards, Hoyt, and their colleagues seems to demonstrate that success in school work is not related to success outside of school. Further it implies that academic talent may be only one kind of talent, and of limited consequence in the real world. Whether or not the talents evidenced in nonacademic high school accomplishments are related to comparable nonacademic adult accomplishments, however, has not been determined, and is the subject of this report.

## Method

The purpose of this study is to examine the relationship between test scores, high school grades, high school nonacademic accomplish-

ments on the one hand, and later adult accomplishments on the other. Students in our analysis wrote the ACT Assessment (including the Student Profile

Section) in the 1964-65 academic year as high school seniors. ACT test scores, high school grades, and high school nonacademic accomplishments were available for this sample. Our Research Service records indicate what colleges and universities these students subsequently entered. We selected for this study students who had attended three universities, and with the help of university personnel surveyed these young adults in midyear during 1970-71, 6 years later. The typical student who took 4 years to get a bachelor's degree would have been in his second year after college graduation. The research questionnaire, called an Alumni Survey, contained eight-item scales corresponding to the six areas of high school nonacademic accom-

plishment in the original SPS. The items for the scales are reported in Table 1. We also asked the people surveyed to indicate whether or not they had received a bachelor's degree, and to report their overall college grade point average (GPA). We assume they provided self-report data with accuracy comparable to that found by Maxey and Orinsby (1971) for college-bound students. Information on a student-by-student basis was collated with earlier data in the ACT files, and correlations between high school indexes of talent (test scores, high school grades, and nonacademic accomplishments) and adult accomplishments were obtained separately by sex, by institution, and by graduation status.

**TABLE 1**

**Items That Make Up the Adult Accomplishment Scales**

Directions to alumni completing this form:

Please circle the appropriate response for every question. The following list covers many diverse areas of talent and interest and few people will be able to say "yes" to many of the items. (Scale scores are simply the sum of the "yes" responses for that scale.)

**SINCE LEAVING COLLEGE I HAVE:**

*Leadership*

- |   |   |   |
|---|---|---|
| 1. Voted in a local, state, or national election.   | Y | N |
| 2. Actively campaigned to elect someone to local, state, or national office.  | Y | N |
| 3. Actively campaigned for passage or defeat of legislation at local, state, or national level.   | Y | N |
| 4. Attended a precinct caucus, county convention, or state convention of a political party.   | Y | N |
| 5. Been elected or appointed to position as officer or board member of a service or social organization such as a lodge, Rotary, League of Women Voters, Alumni Association, etc. | Y | N |
| 6. Been a candidate for election to school board, city, county, or state office.  | Y | N |
| 7. Written a letter to a newspaper, magazine, or public official about pending or proposed legislation.   | Y | N |
| 8. Participated in one or more demonstrations for some political or social goal such as civil rights, states' rights, free speech, women's liberation, etc.                       | Y | N |

*Music*

- |   |   |   |
|---|---|---|
| 9. Composed or arranged music which was publicly performed. | Y | N |
| 10. Played a musical instrument privately or publicly.      | Y | N |

[Continued]

TABLE 1 (Continued)

11. Performed publicly with a musical group or as a solo performer.	Y	N
12. Participated in a church or community choir or chorus.	Y	N
13. Given music lessons on a continuing basis.	Y	N
14. Been paid for performing as a professional musician on a continuing basis.	Y	N
15. Listened to live or recorded music frequently and found it a great source of pleasure.	Y	N
16. Was author or coauthor of a book, article, or criticism bearing on the general subject of music.	Y	N

*Literary*

17. Published poems, stories, essays, or articles in a newspaper, magazine, journal, or book.	Y	N
18. Written an original short story or novel which may or may not be published.	Y	N
19. Edited a manuscript, newsletter, or article written by someone else.	Y	N
20. Written one or more plays (including radio or TV plays) that were given public performance.	Y	N
21. Won a literary award or prize for creative writing.	Y	N
22. Written advertising copy that was published.	Y	N
23. Regularly recorded observations and thoughts in a diary or journal.	Y	N
24. Developed or followed a program of reading and/or building a personal library of poetry, novels, biographies, etc.	Y	N

*Art*

25. Finished on my own one or more original works of art such as drawings, paintings, sculptures, ceramics, wall hangings, etc.	Y	N
26. Exhibited a work of art in a library, museum, art gallery, civic center or other public building, or had photographs of art works published in a newspaper or magazine.	Y	N
27. Won a prize or award in an art competition.	Y	N
28. Sold one or more works of art to collectors, museums, or the general public.	Y	N
29. Designed, made, and sold original craft items such as jewelry, leathercraft, weavings, etc.	Y	N
30. Designed window or store displays, or sets, lighting, or costumes for community or professional theater (or TV).	Y	N
31. Designed or prepared layouts for greeting cards, posters, advertising, newspapers, magazines, or books.	Y	N
32. Collected prints, reproductions, or original art works, or art books for personal pleasure.	Y	N

*Drama*

33. Had a part in a community or church-sponsored play.	Y	N
34. Appeared on stage, radio, or TV as a speaker or performer.	Y	N
35. Given a speech, talk, or dramatic reading before an audience of 20 people or more.	Y	N
36. Been a regular performer on stage, radio, or TV.	Y	N

(Continued)



TABLE 1 [Continued]

37. Had one or more leads in plays produced by community or professional theater group.	Y	N
38. Received an award for acting or some other phase of drama.	Y	N
39. Supported a community or church-sponsored theater group by working in makeup, directing, publicity, or with stage crew.	Y	N
40. Attended a live play or musical performance by amateurs or professionals.	Y	N

#### Science

41. Was author or coauthor of a scholarly or scientific article accepted for publication in a popular or professional journal or presented as a public lecture.	Y	N
42. Worked in a laboratory or other research setting conducting or assisting in scientific or scholarly research.	Y	N
43. Invented a patentable device.	Y	N
44. Built a piece of scientific equipment.	Y	N
45. Written reports summarizing research done by myself or others.	Y	N
46. Lectured regularly or taught a class in a subject related to my field.	Y	N
47. Received a grant or other award for scholarly or scientific achievement.	Y	N
48. Attended a regional or national convention or conference of a scientific, scholarly, or professional organization such as the American Chemical Society or the Midwest Psychological Society.	Y	N

#### College GPA

49. My overall college grade when I left college was approximately: (Please check the appropriate grade. If your college did not use letter grades, check the one which is the closest equivalent.)	
D or lower	_____0
D+	_____1
C	_____2
C+	_____3
B	_____4
B+	_____5
A to A+	_____6

The three institutions had students at different ability levels. Two served primarily white students and one primarily black students. The data made it possible to consider relationships within and among colleges, and to examine relationships within the two racial groups.

The Alumni Survey was mailed in 1970-71 to students who had enrolled in the fall of 1965 at the three universities. In many cases home addresses recorded during the 1964-65 year when students wrote the ACT Assessment were used, and from 15 to 18% of the surveys were returned to ACT by the

post office as undeliverable. About 82 to 85% of the surveys apparently were received by students, their parents, or spouses. The return rates are given in Table 2 by institution, and based on the number of surveys received (i.e., not returned by the post office) the percentages responding were 42, 56, and 19. The first two percentages represent return rates that are reasonable and consistent with the experience of other follow-up studies. One might offer several explanations for the low response rate at the third institution but the data are insufficient for any definitive statement.



**TABLE 2**  
**Return Rate by Institutions**

	Institutions		
	A	B	C
Number of surveys mailed (to students enrolled as college freshmen in fall 1965, and who wrote the ACT Test)	2,685	2,625	814
Number of surveys received <sup>a</sup> (not returned to ACT by the post office as undeliverable)	2,201	2,217	674
Percent received	(82)	(85)	(83)
Number returning surveys	926	1,244	129
Percent of number mailed	(35)	(47)	(16)
Percent of number received	(42)	(56)	(19)
Number returning surveys by graduation status			
Graduates	685	897	42
Nongraduates	107	165	31

<sup>a</sup> 1964-65 home addresses were used in many cases where alumni offices did not have correct addresses, and this contributed to the rate of undeliverable surveys.

Next, we wished to consider in a gross way how the responders (both those who graduated from colleges and those who did not) differed on admissions variables from the total group of enrolled freshmen. This information is provided institution by institution in Table 3. Means and standard deviations are reported for the 1964-65 ACT variables of interest, including ACT test scores, high school grades, and the SPS (Student Profile Section) nonacademic accomplishment scales. The information in Table 3 shows that generally the graduates who responded were higher in academic talent (test scores and high school grades) than the nongraduates who responded, the two groups being respectively above and below the means for the total group of enrolled freshmen. Means on the SPS non-academic accomplishment scales did not differ appreciably for the three groups. The differences in test scores and high school grades between the graduate and nongraduate responders confirmed our decision to analyze the two groups separately for each institution.

Items which make up the adult accomplishment scales are reported in Table 1. Many of these items reflect outcomes of a college education a majority of educators would espouse. It seems appropriate to consider them as important adult behaviors. Test-retest reliabilities over a 2-week interval for the six adult accomplishment scales and the college GPA item are reported in Table 4, based on a sample of 36 University of Iowa students in a graduate course in statistics. It appears that the adult behaviors and self-reported college GPA can be reliably assessed.

**TABLE 3**  
**Comparison of Graduates (G) and Nongraduates (N) Responding to Alumni Survey  
with Original Group of Enrolled Students (E) at Each Institution**  
(N-counts are reported in Table 2)

Variable	Group	Institution					
		A		B		C	
		M	S.D.	M	S.D.	M	S.D.
ACT English Scores	G	21.5	3.6	23.7	3.3	15.1	5.4
	N	19.5	3.5	23.0	3.0	11.6	4.5
	E	20.7	3.7	23.1	3.4	10.8	5.0

[Continued]

TABLE 3 [Continued]

Variable	Group	Institution					
		A		B		C	
		M	S.D.	M	S.D.	M	S.D.
ACT Math Scores	G	23.3	5.1	26.3	4.9	14.9	6.3
	N	20.2	5.0	24.3	5.0	10.7	4.3
	E	22.3	5.1	25.2	5.2	11.0	5.1
ACT Social Studies Scores	G	23.6	4.7	26.4	3.7	15.9	6.6
	N	20.9	5.2	25.1	4.1	10.0	4.5
	E	22.7	4.8	25.8	3.9	10.6	5.9
ACT Natural Sciences Scores	G	23.0	4.8	25.8	4.1	15.1	6.4
	N	21.2	5.1	24.9	4.4	11.3	4.9
	E	22.3	5.0	25.2	4.3	11.3	5.0
ACT Composite Scores	G	23.0	3.6	25.7	3.0	15.4	5.1
	N	20.6	3.5	24.4	3.1	11.0	3.5
	E	22.1	3.6	25.0	3.2	11.0	4.3
HS Grades English	G	3.26	0.80	3.29	0.77	3.21	0.74
	N	2.81	0.88	2.98	0.86	2.61	0.79
	E	3.01	0.80	3.10	0.75	2.75	0.83
HS Grades Math	G	2.94	1.08	2.94	0.95	2.90	1.31
	N	2.36	0.95	2.51	1.08	2.61	1.07
	E	2.67	1.01	2.68	0.92	2.44	0.88
HS Grades Social Studies	G	3.34	0.83	3.38	0.79	3.10	0.68
	N	2.80	0.88	3.00	0.89	2.77	0.75
	E	3.14	0.82	3.15	0.76	2.85	0.84
HS Grades Natural Science	G	3.05	1.02	3.09	0.90	3.14	1.32
	N	2.61	0.96	2.76	1.04	3.00	1.50
	E	2.78	0.95	2.83	0.84	2.57	0.85
SPS Leadership	G	2.58	1.84	2.82	1.97	2.33	2.24
	N	2.31	1.86	2.39	2.02	2.42	2.25
	E	2.60	1.89	2.64	1.99	3.26	2.05
SPS Music	G	1.72	2.06	2.32	2.20	1.10	1.51
	N	1.65	2.06	2.18	2.10	1.00	1.52
	E	1.63	2.04	2.13	2.11	1.84	2.06
SPS Drama	G	1.22	1.65	1.48	1.75	1.45	1.73
	N	1.37	1.65	1.49	1.60	1.06	1.54
	E	1.29	1.65	1.46	1.72	1.84	1.88
SPS Art	G	0.52	1.38	0.47	1.15	0.21	0.67
	N	0.56	1.13	0.47	0.91	0.45	1.07
	E	0.64	1.44	0.55	1.87	0.64	1.44
SPS Literature (writing)	G	0.87	1.32	1.12	1.53	0.60	1.11
	N	0.90	1.39	1.05	1.39	0.48	0.98
	E	1.03	1.41	1.22	1.48	1.14	1.25
SPS Science	G	0.86	1.47	0.77	1.43	0.76	1.63
	N	0.66	1.11	0.52	0.93	0.48	1.13
	E	1.09	1.57	0.86	1.40	1.06	1.58

TABLE 4

**Test-Retest Reliabilities  
for the Six Adult Accomplishment Scales  
and the College GPA Item  
(N=36, Interval of 2 Weeks)**

Scales	Reliabilities
Leadership	.93
Music	.89
Literary	.81
Art	.82
Drama	.88
Science	.79
College GPA	.92

### Results

Correlations between ACT admissions variables (ACT test scores, high school grades, other SPS high school nonacademic accomplishment scales) and adult accomplishments (adult accomplishment scales and college GPA) assessed 6 years later, are reported in Tables 5 and 6, for college nongraduates and graduates, respectively. Data for the three institutions were combined for these tables, but information is given separately for men and women.<sup>2</sup> The data show that for all groups ACT test scores and high school grades have moderate correlations (.15 to .39, with a median of .31) with college GPA. Essentially all three represent academic talent. The correlations are higher for graduates (.28 to .39) than for the nongraduates (.15 to .31). ACT test scores and high school grades do not appear to be related to the adult accomplishment scales. Correlations range from -.02 to .14, with a median of .05. Instead the SPS high school nonacademic accomplishment scales are related to respective adult accomplishment scales at about the same magnitude test scores and high school grades are correlated with college GPA. Correlations range from .18 to .31, with a median of .26. Certain kinds of high school nonacademic accomplishment seem to be related to similar kinds of adult accomplishment; for example, a student exhibiting leadership accomplishment in high school would probably exhibit comparable behavior as an adult. Correlations

between each kind of accomplishment in high school and comparable adult accomplishment are underlined in the tables. Music and art seem to be areas where accomplishment in high school is most highly related to adult accomplishment. High school nonacademic accomplishment, of course, does not show much relation to college grades. Correlations range from .08 to .15, with a median of .12.

The same relationships were found for all groups, both sexes, all institutions, different ability levels, and both races (see appendix). Small differences in median correlations are significant at the .05 level because of the large numbers of students in the study. More important, however, is the consistency of the results from group to group. Not only are academic and nonacademic accomplishment different from each other, but each at the high school level is predictive of similar kinds of accomplishment as adults. Students with considerable academic talent in high school, for example, earn high college grades, and high school students who exhibit citizenship behaviors or an involvement in the arts are likely to do so as adults.

As a final check on the relationship between academic and nonacademic talent, we correlated

<sup>2</sup>Tables in the appendix provide this information by institution.

TABLE 5

**Correlations between ACT Admissions Variables and Adult Accomplishments  
for Nongraduates—All Three Institutions Combined**

**Adult Accomplishments and College GPA**

*(N = 135 Men)*

ACT Admissions Variables		LDR	MUS	DRA	ART	LIT	SCI	GPA	MEAN	S.D.
ACT	E	.00	.08	.11	.05	.18	.14	.14	19.4	4.5
	M	-.07	-.01	-.03	.06	.02	.03	.15	23.4	6.2
	SS	.05	.10	.08	.11	.15	.20	.18	22.0	6.1
	NS	-.07	.02	.02	.03	.16	.15	.06	23.2	5.8
	COMP	-.03	.05	.05	.07	.15	.15	.15	22.1	4.9
HS	E	-.04	.11	-.06	.01	-.00	-.05	.20	2.6	0.8
	M	-.05	.12	-.04	.06	-.01	-.05	.24	2.4	0.9
	SS	-.02	.15	.09	.02	.13	-.10	.25	2.8	0.8
	NS	-.04	.20	.10	.02	.10	-.12	.10	2.5	0.9
SPS	LDR	.16	.05	.08	.23	.02	.13	.24	2.0	1.9
	MUS	.00	.33	.12	.16	.18	.21	.12	1.5	2.1
	DRA	.15	.03	.22	.11	.26	.02	.11	1.3	1.6
	ART	-.08	-.05	-.12	.37	.08	.14	-.05	0.4	1.1
	LIT	.26	-.09	.10	.17	.31	.16	.21	0.7	1.4
	SCI	.12	.04	.03	.11	.10	.17	.18	0.7	1.2

*(N = 168 Women)*

ACT	E	.17	.06	.09	.17	.12	.02	.25	21.5	4.8
	M	.12	.13	.07	.11	.12	.06	.27	19.9	6.2
	SS	.20	.10	.12	.21	.15	.04	.27	22.2	6.6
	NS	.17	.10	.17	.16	.16	.11	.28	21.4	6.4
	COMP	.19	.12	.13	.18	.16	.06	.31	21.4	5.4
HS	E	.08	.08	.09	-.08	.05	-.01	.19	3.1	0.8
	M	-.05	-.03	.02	-.11	-.01	-.08	.28	2.5	1.1
	SS	.13	-.06	.05	-.05	-.03	-.07	.16	3.0	0.9
	NS	.06	.01	-.03	-.02	.06	-.09	.11	2.9	1.2
SPS	LDR	.30	.02	.17	.28	.21	.03	.05	2.6	2.0
	MUS	-.01	.34	.07	.02	-.01	.04	.09	2.2	2.0
	DRA	.20	.06	.16	.06	.24	-.01	.12	1.5	1.6
	ART	.17	.15	.20	.51	.31	.03	.06	0.6	1.0
	LIT	.18	.02	.07	.18	.31	.03	.17	1.1	1.3
	SCI	.04	.07	.07	.16	.15	.22	.20	0.5	0.9

*Summary Statistics for Nongraduates*

	Men	Women
R between ACT Composite Scores and College GPA	.15	.31
Median R between High School Grades and College GPA	.22	.18
Median R between SPS Accomplishments and College GPA	.15	.11
Median R between ACT Composite Scores and Adult Accomplishments	.06	.14
Median R between High School Grades and Adult Accomplishments	.04	-.02
Median R between SPS Accomplishments and Respective Adult Accomplishments	.27	.31

TABLE 6

**Correlations between ACT Admissions Variables and Adult Accomplishments  
for Graduates—All Three Institutions Combined**

**Adult Accomplishments and College GPA**

*(N = 792 Men)*

ACT Admissions Variables		LDR	MUS	DRA	ART	LIT	SCI	GPA	MEAN	S.D.
ACT	E	.03	.08	.06	.04	.06	.11	.32	21.9	3.9
	M	.01	-.03	-.02	-.09	-.05	.14	.31	26.3	5.0
	SS	.15	.01	.09	.06	.16	.16	.35	25.2	4.5
	NS	.11	.02	.07	.06	.11	.21	.30	25.3	4.6
	COMP	.09	.02	.06	.02	.08	.19	.39	24.8	3.7
HS	E	.05	.11	.06	.02	.07	.06	.33	3.1	0.8
	M	-.09	.01	-.07	-.08	-.06	.06	.27	2.9	1.0
	SS	.02	.02	.02	-.06	.06	.06	.26	3.3	0.9
	NS	-.01	.04	.04	-.05	-.05	.09	.28	3.0	1.0
SPS	LDR	.25	.10	.19	.11	.23	.16	.14	2.6	1.9
	MUS	.12	.46	.15	.04	.08	.15	.15	1.7	2.2
	DRA	.18	.15	.25	.08	.19	.10	.08	1.3	1.8
	ART	.06	.03	.01	.24	.11	.04	-.01	0.5	1.3
	LIT	.17	.13	.13	.10	.24	.10	.11	0.8	1.3
	SCI	.12	.06	.08	.03	.06	.21	.13	1.0	1.6

*(N = 832 Women)*

ACT	E	.07	.10	.03	.03	.15	.03	.29	23.1	3.7
	M	.04	.06	.01	-.02	.00	.07	.27	23.2	5.5
	SS	.11	.07	.07	.04	.12	.05	.32	24.7	4.8
	NS	.09	.03	.01	.04	.09	.04	.25	23.4	5.0
	COMP	.09	.07	.03	.02	.09	.06	.34	23.7	4.0
HS	E	.02	.07	-.01	-.07	.04	.06	.28	3.4	0.7
	M	.00	.01	.00	-.10	-.02	.06	.32	3.0	1.0
	SS	.03	.07	.00	-.08	.03	.06	.25	3.4	0.7
	NS	-.01	.04	.01	-.07	.02	.01	.30	3.1	0.9
SPS	LDR	.18	.11	.18	.21	.16	.12	.07	2.8	1.9
	MUS	.05	.37	.05	.04	.09	.02	.06	2.4	2.1
	DRA	.14	.10	.12	.08	.14	.08	.09	1.5	1.7
	ART	.06	.02	.03	.30	.05	.00	.06	0.5	1.1
	LIT	.18	.11	.07	.10	.18	.03	.13	1.2	1.5
	SCI	.10	-.02	.02	.10	.07	.04	.11	0.6	1.2

*Summary Statistics for Graduates*

	Men	Women
R between ACT Composite Scores and College GPA	.39	.34
Median R between High School Grades and College GPA	.28	.29
Median R between SPS Accomplishments and College GPA	.12	.08
Median R between ACT Composite Scores and Adult Accomplishments	.07	.08
Median R between High School Grades and Adult Accomplishments	.02	.01
Median R between SPS Accomplishments and Respective Adult Accomplishments	.25	.18



college GPA with the adult accomplishment scales. The results are reported in Table 7 separately by sex and graduation status. Correlations range from .04 to .19, with a median of .09. This confirms that college grades are not related to the kind of adult accomplishment assessed on these scales, and is consistent with Hoyt's finding that college grades are uncorrelated with many indices of success after college.

The components of the adult accomplishment scales (see items in Table 1) identify the scales as important measures of talent, and the correlations in Tables 5 and 6 show that, though unrelated to academic talent, the scales are related to comparable accomplishments while in high school. The correlations over a 6-year interval show that all kinds of talent tend to maintain themselves over the post-adolescent period.

**TABLE 7**  
**Correlations between Adult Accomplishments**  
**and College Grade Point Averages (GPAs)—All Institutions Combined**

<b>Adult Accomplishments</b>	<b>Men Grads N=792</b>	<b>Men Nongrads N=135</b>	<b>Women Grads N=832</b>	<b>Women Nongrads N=168</b>	<b>Median R</b>
LDR	.12	.12	.13	.08	.12
MUS	.12	.16	.08	.00	.10
LIT	.10	.08	.07	.02	.08
ART	.01	.11	-.01	.06	.04
DRA	.11	-.05	.07	.08	.08
SCI	.34	.19	.19	.00	.19
			Median of the Median Rs		.09

### Discussion

It is well to review the limitations of this report. It deals with three universities and not with a large national sample. The response rate, ratio of returned to mailed questionnaires, was not as high as we would have liked, even for a 6-year interval.

More important, some people might argue that the adult accomplishment scales employed here and reported in Table 1 are not proper outcome measures for a college education. There is always difficulty in specifying college outcomes, but in one sense these measures represent cultural and citizenship goals a college might have for its students.

Limited as these results are, however, they confirm other studies on the relationship between academic talent and nonacademic accomplishment and as such imply that a broadening of our

vision is in order. An overemphasis on academic talent to the exclusion of other kinds of talents within our society operates to the disadvantage of many young people seeking entry into an occupation, employment within a company, or admission to college, graduate or professional school.

One of the undesirable by-products of testing practice has been the emphasis on academic talent with its accompanying indifference to other kinds of talent. This has been an undesirable social implication of testing. Tests have fostered a narrow conception of ability, and restricted the diversity of talent which might be brought to the attention of young people considering the various occupations and professions. It is small wonder that some people have mistakenly interpreted test scores as measures of personal worth, and have mistakenly

assumed that academic talent as evidenced in school is related in a major way to later adult accomplishment.

In our efforts to present a more balanced view and to call attention to other kinds of talents, it is appropriate not to unduly down play academic talent. A college education is necessary for most positions of responsibility within our society, and certain minimal levels of academic talent are necessary for college. To this extent academic talent is related to later-life success. Further, the pursuit of excellence in any area of talent brings with it considerable personal satisfaction, and academic talent is no exception.

At the same time, we should consider ways that other kinds of talents can be nurtured by our schools. For a discussion of how nonacademic accomplishments may be helpfully employed in college admissions, see Baird and Richards (1968) and Wing and Wallach (1971).

An uncritical application of academic talent indicators, such as test scores, in situations where

academic talent is uncorrelated with the major outcomes of interest, represents a bureaucratic abuse of test scores. This follows from the simple test-users' principle that validity information should be available relative to a specific test use. The principle has been elevated recently to the stature of a U.S. Supreme Court decision in the *Griggs vs. Duke Power Company* (1971). This court decision dealt with industrial employment practices involving use of test scores representing academic talent in selection for jobs that did not require academic talent for success. The court held this was an inappropriate use of test results, and voided the selection procedure. In short, test scores can be helpful in predicting college grades, but not college out-of-class accomplishments or probably not significant later-life accomplishments. The concern of some colleges and most graduate and professional schools with later-life success underscores the need for these institutions to consider several kinds of talent in selecting their student populations and providing for their development.

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# APPENDIX A

## Correlations between ACT Admissions Variables and Adult Accomplishments. for Graduates—University A

### Adult Accomplishments and College GPA

(N = 354 Men)

ACT Admissions Variables		LDR	MUS	DRA	ART	LIT	SCI	GPA	MEAN	S.D.
ACT	E	-.01	.02	.00	-.06	-.04	.06	.27	21.0	3.7
	M	.01	-.01	-.03	-.07	-.12	.13	.27	24.9	4.6
	SS	.11	.04	.06	.01	.14	.15	.40	24.0	4.6
	NS	.06	.05	.01	.05	.04	.20	.30	24.1	4.6
	COMP	.07	.04	.02	-.02	.00	.18	.40	23.7	3.4
HS	E	.09	.05	.03	-.13	.03	.10	.33	3.1	0.8
	M	-.08	-.02	-.08	-.17	-.12	.04	.21	2.9	1.1
	SS	.02	-.01	.02	-.11	.05	.12	.25	3.3	0.9
	NS	.02	-.04	.03	-.16	-.09	.10	.26	3.0	1.0
SPS	LDR	.23	.14	.19	.20	.27	.20	.17	2.4	1.8
	MUS	.15	.46	.13	.10	.10	.15	.14	1.4	2.1
	DRA	.16	.08	.20	.07	.18	.12	.06	1.1	1.7
	ART	.12	.10	.01	.27	.19	.06	-.04	0.4	1.3
	LIT	.15	.17	.12	.10	.18	.09	.11	0.7	1.2
	SCI	.14	.16	.13	.10	.09	.24	.15	1.0	1.5

(N = 331 Women)

ACT	E	.04	.03	.05	-.01	.08	-.02	.32	22.0	3.4
	M	.03	.07	.11	-.06	-.01	.09	.31	21.5	5.0
	SS	.04	.06	.13	.04	.08	.06	.32	23.1	4.7
	NS	.11	.01	.07	.04	.08	.07	.27	21.7	4.7
	COMP	.06	.05	.11	.01	.07	.07	.38	22.2	3.6
HS	E	.07	.06	.04	-.06	.04	.08	.28	3.4	0.7
	M	.13	.04	.06	-.06	.01	.06	.37	3.0	1.1
	SS	.11	.08	.06	-.06	-.00	.07	.25	3.4	0.8
	NS	.06	-.01	.09	.00	.01	.00	.29	3.2	1.0
SPS	LDR	.14	.11	.10	.20	.11	.03	.11	2.7	1.8
	MUS	.02	.36	.03	.03	.12	.01	.04	2.1	2.0
	DRA	.09	.09	.00	-.00	.09	.02	.02	1.3	1.6
	ART	.06	-.01	.04	.35	.07	-.04	.05	0.6	1.5
	LIT	.12	.11	.06	.10	.10	-.06	.14	1.1	1.4
	SCI	.05	-.02	-.08	.07	.07	-.03	.06	0.8	1.4

# APPENDIX B

## Correlations between ACT Admissions Variables and Adult Accomplishments for Nongraduates—University A

### Adult Accomplishments and College GPA

(N = 60 Men)

ACT Admissions Variables		LDR	MUS	DRA	ART	LIT	SCI	GPA	MEAN	S.D.
ACT	E	-.10	-.03	.04	.37	.26	.24	.04	18.4	3.2
	M	-.17	-.01	-.20	.14	-.20	-.10	.15	21.7	5.0
	SS	-.02	.14	.08	.27	.10	.14	.08	20.8	5.3
	NS	-.16	-.03	-.02	.22	.10	.12	.10	21.9	4.9
	COMP	-.15	.02	-.06	.31	.07	.10	.13	20.8	3.6
HS	E	-.10	-.00	-.14	.01	-.14	-.12	-.05	2.6	0.8
	M	-.16	.06	.03	.16	.03	.07	.12	2.3	0.9
	SS	-.11	.28	.09	.19	.11	-.10	.16	2.8	0.8
	NS	-.11	.24	.20	.07	.14	-.08	-.08	2.5	0.8
SPS	LDR	<u>.10</u>	-.03	.08	.11	.07	.13	.31	2.2	1.9
	MUS	-.09	<u>.27</u>	.21	.09	.26	-.12	.09	1.4	2.1
	DRA	.06	.06	<u>.20</u>	.04	.17	.01	.32	1.7	1.9
	ART	-.10	-.10	-.12	<u>-.02</u>	.04	-.03	.06	0.3	0.9
	LIT	.21	-.15	.07	<u>.23</u>	<u>.22</u>	.08	.26	0.8	1.4
	SCI	.07	-.14	-.01	.19	<u>.07</u>	<u>.15</u>	.15	0.7	1.2

(N = 47 Women)

ACT	E	.28	.04	.14	.23	.31	-.10	.11	20.8	3.4
	M	.09	.29	-.03	.26	.10	.10	-.05	18.4	4.4
	SS	.30	.12	.07	.25	.17	.01	.25	21.1	5.1
	NS	.28	.24	.25	.34	.32	.29	.09	20.1	5.1
	COMP	.32	.24	.16	.37	.28	.11	.15	20.3	3.4
HS	E	-.11	-.08	-.02	-.18	-.17	-.01	.34	3.1	0.9
	M	-.22	-.05	.13	.00	-.22	-.25	.45	2.4	1.0
	SS	.02	-.05	.07	.02	-.07	-.07	.24	2.8	1.0
	NS	.12	.04	.21	.18	-.00	-.12	.13	2.7	1.1
SPS	LDR	<u>.26</u>	-.04	.06	.38	.27	.09	-.22	2.4	1.8
	MUS	-.03	<u>.37</u>	-.07	.04	-.18	.00	-.10	2.0	2.0
	DRA	.38	.08	<u>-.08</u>	.11	.44	-.01	.04	1.0	1.3
	ART	.34	.25	.43	<u>.61</u>	.32	.03	-.00	0.9	1.3
	LIT	.27	-.09	-.14	<u>.21</u>	<u>.18</u>	-.17	.07	1.0	1.4
	SCI	.22	.07	-.02	.08	.23	<u>.33</u>	-.02	0.6	0.9

# APPENDIX C

## Correlations between ACT Admissions Variables and Adult Accomplishments for Men and Women Combined—University A Adult Accomplishments and College GPA

(N = 685 Graduates)

ACT Admissions Variables		LDR	MUS	DRA	ART	LIT	SCI	GPA	MEAN	S.D.
ACT	E	.01	.05	.02	-.00	.01	.02	.31	21.5	3.6
	M	.04	-.02	.04	-.13	-.06	.12	.19	23.3	5.1
	SS	.08	.03	.09	.01	.11	.11	.33	23.6	4.7
	NS	.09	-.00	.04	-.01	.06	.15	.21	23.0	4.8
	COMP	.07	.01	.06	-.05	.03	.14	.33	23.0	3.6
HS	E	.07	.08	.03	-.06	.03	.08	.33	3.3	0.8
	M	.01	.01	-.02	-.10	-.06	.04	.28	2.9	1.1
	SS	.05	.03	.03	-.07	.03	.10	.25	3.3	0.8
	NS	.03	-.01	.05	-.05	-.04	.05	.29	3.1	1.0
SPS	LDR	.19	.14	.15	.21	.20	.12	.15	2.6	1.8
	MUS	.08	.43	.08	.10	.10	.09	.13	1.7	2.1
	DRA	.13	.09	.11	.05	.14	.08	.06	1.2	1.7
	ART	.09	.05	.02	.32	.13	.01	.02	0.5	1.4
	LIT	.13	.16	.09	.13	.14	.01	.16	0.9	1.3
	SCI	.11	.07	.04	.07	.08	.14	.09	0.9	1.5

(N = 107 Nongraduates)

ACT	E	.10	.03	.03	.38	.34	.07	.20	19.5	3.5
	M	-.08	.06	-.10	.02	-.13	-.01	-.08	20.2	5.0
	SS	.13	.14	.07	.24	.13	.08	.16	20.9	5.2
	NS	.04	.06	.08	.17	.15	.19	.01	21.2	5.1
	COMP	.06	.10	.01	.27	.15	.11	.10	20.6	3.5
HS	E	-.08	-.00	-.12	.04	-.07	-.07	.25	2.8	0.9
	M	-.19	.02	.06	.06	-.09	-.09	.27	2.4	1.0
	SS	-.04	.13	.08	.06	.01	-.08	.18	2.8	0.9
	NS	.02	.15	.17	.18	.09	-.10	.09	2.6	1.0
SPS	LDR	.17	-.03	.06	.25	.17	.11	.06	2.3	1.9
	MUS	-.05	.31	.10	.12	.09	-.06	.05	1.7	2.1
	DRA	.16	.05	.15	-.02	.21	.00	.10	1.4	1.6
	ART	.15	.08	.05	.45	.24	.00	.11	0.6	1.1
	LIT	.24	-.12	.00	.21	.21	-.03	.17	0.9	1.4
	SCI	.13	-.07	-.01	.10	.12	.22	.06	0.7	1.1

# APPENDIX D

## Correlations between ACT Admissions Variables and Adult Accomplishments for Graduates—University B

### Adult Accomplishments and College GPA

(N = 423 Men)

ACT Admissions Variables		LDR	MUS	DRA	ART	LIT	SCI	GPA	MEAN	S.D.
ACT	E	.05	.18	.15	.06	.13	.14	.36	23.0	3.3
	M	-.02	-.04	.00	-.17	-.03	.14	.33	27.9	4.4
	SS	.21	.00	.15	.08	.18	.17	.29	26.5	3.7
	NS	.13	-.01	.13	.03	.15	.20	.28	26.6	3.9
	COMP	.10	.03	.13	-.02	.13	.21	.42	26.1	2.9
HS	E	.04	.17	.09	.12	.10	.03	.33	3.1	0.8
	M	-.09	.04	-.07	-.02	-.01	.08	.31	3.0	1.0
	SS	.03	.05	.02	-.04	.07	.01	.26	3.3	0.8
	NS	-.01	.12	.05	.04	-.03	.09	.30	3.1	1.0
SPS	LDR	<u>.27</u>	.07	.19	.04	.20	.12	.10	2.7	2.0
	MUS	.08	<u>.48</u>	.18	-.01	.07	.14	.13	1.9	2.3
	DRA	.18	.20	<u>.29</u>	.08	.19	.07	.00	1.4	1.8
	ART	.01	-.03	-.01	<u>.22</u>	.04	.02	.00	0.5	1.4
	LIT	.17	.10	.14	.09	<u>.27</u>	.08	.10	1.0	1.5
	SCI	.09	-.01	.02	-.02	.02	<u>.17</u>	.11	1.1	1.7

(N = 474 Women)

ACT	E	.04	.15	.05	-.02	.19	.08	.29	24.3	3.2
	M	.00	.05	-.04	-.08	-.01	.09	.26	24.9	4.9
	SS	.12	.08	.03	-.05	.17	.09	.39	26.3	3.7
	NS	.02	.03	-.02	-.05	.08	.04	.25	25.0	4.1
	COMP	.05	.09	.00	-.08	.11	.10	.38	25.2	3.1
HS	E	-.03	.10	-.04	-.08	.03	.03	.27	3.5	0.7
	M	-.07	-.01	-.03	-.15	-.05	.04	.30	2.9	0.9
	SS	-.03	.07	-.04	-.09	.06	.06	.25	3.4	0.7
	NS	-.05	.09	-.05	-.14	.01	.01	.30	3.1	0.8
SPS	LDR	<u>.18</u>	.13	.24	.20	.19	.18	.03	2.9	1.9
	MUS	.04	<u>.39</u>	.06	.02	.07	.03	.07	2.7	2.1
	DRA	.16	.12	<u>.18</u>	.12	.15	.11	.13	1.5	1.7
	ART	.06	.04	.03	<u>.27</u>	.04	.04	.06	0.5	0.9
	LIT	.21	.12	.08	.08	<u>.21</u>	.10	.11	1.3	1.5
	SCI	.18	-.03	.09	.13	.06	<u>.10</u>	.13	0.5	1.0

# APPENDIX E

## Correlations between ACT Admissions Variables and Adult Accomplishments for Nongraduates—University B

### Adult Accomplishments and College GPA

(N = 64 Men)

ACT Admissions Variables		LDR	MUS	DRA	ART	LIT	SCI	GPA	MEAN	S.D.
ACT	E	.01	.31	.14	-.04	.15	.16	.19	21.9	3.0
	M	-.16	.04	-.05	-.03	-.02	.03	.28	26.9	4.3
	SS	.06	.19	.00	.08	.14	.28	.30	25.1	4.1
	NS	-.09	.18	-.08	-.04	.13	.20	.02	26.0	4.3
	COMP	-.07	.23	.02	-.01	.13	.24	.26	25.1	2.9
HS	E	.05	.31	.08	.15	.12	-.01	.33	2.6	0.8
	M	.03	.13	-.09	.04	.00	-.11	.32	2.5	0.9
	SS	.07	.07	.10	.04	.15	-.11	.35	2.7	0.8
	NS	-.03	.11	.02	.06	.07	-.14	.26	2.6	1.0
SPS	LDR	<u>.25</u>	.14	.11	.39	.02	.20	.17	1.9	2.0
	MUS	<u>.06</u>	<u>.45</u>	.01	.22	.10	.44	.16	1.7	2.1
	DRA	.31	.13	<u>.28</u>	.26	.41	.10	.01	1.0	1.4
	ART	-.11	.03	-.20	<u>.40</u>	.11	.18	-.09	0.4	1.1
	LIT	.33	-.01	.13	.21	<u>.39</u>	.25	.23	0.7	1.4
	SCI	-.18	.27	.07	.06	.13	<u>.25</u>	.26	0.7	1.2

(N = 101 Women)

ACT	E	.02	.02	.07	-.01	-.14	.12	.25	23.6	2.9
	M	.02	.05	.02	-.07	-.02	.07	.35	22.7	4.8
	SS	.05	.06	.11	.06	-.05	.08	.24	25.2	4.0
	NS	.00	-.05	.07	-.12	-.12	.03	.33	24.2	4.3
	COMP	.04	.04	.09	-.06	-.09	.09	.39	24.0	3.1
HS	E	.17	.12	.10	-.14	.13	.01	.07	3.2	0.8
	M	-.01	-.04	-.04	-.23	.03	-.12	.22	2.5	1.2
	SS	.20	-.05	.02	-.07	-.01	-.03	.15	3.2	0.9
	NS	.19	.07	.00	-.08	.19	-.01	.19	2.9	1.0
SPS	LDR	<u>.27</u>	-.01	.13	.26	.21	.02	.12	2.7	1.9
	MUS	-.08	<u>.35</u>	.07	-.01	.03	.08	.10	2.5	2.0
	DRA	.10	.05	<u>.20</u>	.03	.17	-.03	.06	1.8	1.7
	ART	.03	.10	.18	<u>.44</u>	.33	.03	.02	0.5	0.8
	LIT	.11	.03	.08	.12	<u>.32</u>	.07	.15	1.3	1.3
	SCI	-.04	.02	.07	.18	-.02	<u>-.08</u>	.26	0.4	0.7

# APPENDIX F

## Correlations between ACT Admissions Variables and Adult Accomplishments for Men and Women Combined—University B Adult Accomplishments and College GPA

(N = 897 Graduates)

ACT Admissions Variables		LDR	MUS	DRA	ART	LIT	SCI	GPA	MEAN	S.D.
ACT	E	.02	.18	.11	.07	.16	.09	.34	23.7	3.3
	M	.03	-.03	-.04	-.18	-.03	.14	.25	26.3	4.9
	SS	.16	.03	.09	.00	.17	.13	.33	26.4	3.7
	NS	.09	-.01	.03	-.06	.11	.14	.24	25.8	4.1
	COMP	.09	.04	.05	-.08	.12	.17	.38	25.7	3.0
HS	E	-.02	.16	.04	.08	.07	.00	.31	3.3	0.8
	M	-.08	.01	-.05	-.09	-.03	.06	.30	2.9	1.0
	SS	-.00	.06	-.00	-.05	.06	.02	.26	3.4	0.8
	NS	-.04	.11	.00	-.04	-.01	.05	.31	3.1	0.9
SPS	LDR	.22	.10	.21	.13	.20	.14	.07	2.8	2.0
	MUS	.05	.45	.13	.05	.07	.07	.12	2.3	2.2
	DRA	.16	.17	.23	.11	.17	.08	.11	1.5	1.7
	ART	.03	-.00	.00	.23	.04	.03	.02	0.5	1.1
	LIT	.18	.12	.11	.11	.24	.08	.12	1.1	1.5
	SCI	.14	-.04	.03	-.02	.03	.16	.09	0.8	1.4

(N = 165 Nongraduates)

ACT	E	.02	.15	.09	.01	.02	.08	.29	23.0	3.0
	M	-.07	.03	.01	-.10	-.08	.12	.17	24.3	5.0
	SS	.05	.12	.06	.07	.03	.17	.25	25.1	4.1
	NS	-.05	.05	.01	-.11	-.05	.14	.15	24.9	4.4
	COMP	-.01	.11	.07	-.06	-.03	.18	.28	24.4	3.1
HS	E	.12	.20	.07	.03	.17	-.06	.25	3.0	0.9
	M	.01	.03	-.06	-.13	.03	-.11	.25	2.5	1.1
	SS	.15	.01	.04	.01	.08	-.11	.27	3.0	0.9
	NS	.10	.09	.00	.00	.16	-.09	.24	2.8	1.0
SPS	LDR	.26	.06	.11	.33	.16	.06	.19	2.4	2.0
	MUS	-.01	.39	.04	.11	.08	.21	.17	2.2	2.1
	DRA	.19	.08	.21	.14	.28	-.02	.10	1.5	1.6
	ART	-.04	.03	-.00	.42	.23	.10	-.02	0.5	0.9
	LIT	.21	.02	.09	.18	.37	.11	.22	1.1	1.4
	SCI	.07	.15	.08	.09	.03	.14	.19	0.5	0.9



# APPENDIX G

## Correlations between ACT Admissions Variables and Adult Accomplishments for Men and Women Combined—University C Adult Accomplishments and College GPA

(N = 42 Graduates)

ACT Admissions Variables		LDR	MUS	DRA	ART	LIT	SCI	GPA	MEAN	S.D.
ACT	E	-.11	-.12	-.04	.28	.51	.31	.61	15.1	5.4
	M	-.11	.04	-.13	.23	.15	.23	.54	14.9	6.3
	SS	.11	.07	.14	.08	.19	.26	.50	15.9	6.6
	NS	.27	.17	.14	.17	.34	.41	.59	15.1	6.4
	COMP	.05	.06	.03	.22	.34	.35	.66	15.4	5.1
HS	E	-.25	-.25	-.06	.09	.30	.17	.40	3.2	0.7
	M	-.19	-.07	-.01	.09	.08	.21	.24	2.9	1.3
	SS	-.19	-.08	.08	.02	.10	.09	.23	3.1	0.7
	NS	-.26	-.11	-.05	.04	.10	-.01	.25	3.1	1.3
SPS	LDR	.17	.07	.34	.26	.26	.46	.35	2.3	2.2
	MUS	.11	.27	.16	.25	.04	.17	.23	1.1	1.5
	DRA	.21	.15	.48	.30	.49	.40	.36	1.5	1.7
	ART	.32	.25	.33	.03	.29	.43	.03	0.2	0.7
	LIT	.06	-.10	.15	.15	.49	.19	.35	0.6	1.1
	SCI	.15	.01	.33	.27	.44	.32	.28	0.8	1.6

(N = 31 Nongraduates)

ACT	E	-.16	-.09	-.26	-.28	-.08	-.14	.44	11.6	4.5
	M	.03	-.06	-.07	-.13	.16	.20	.20	10.7	4.3
	SS	.08	-.02	-.10	-.07	.18	.19	.37	10.0	4.5
	NS	-.01	.02	.14	-.10	.38	.26	.24	11.3	4.9
	COMP	-.01	-.05	-.08	-.19	.19	.16	.40	11.0	3.5
HS	E	-.17	-.07	-.08	-.25	-.28	-.09	.27	2.6	0.8
	M	.16	.17	.09	.21	.14	.21	.36	2.6	1.1
	SS	-.11	-.16	-.04	-.30	-.14	-.16	.03	2.8	0.7
	NS	-.33	.00	-.27	-.15	-.12	-.24	-.08	3.0	1.5
SPS	LDR	.45	.15	.32	.18	.09	-.11	.34	2.4	2.3
	MUS	.21	-.07	.08	-.09	.06	-.06	.26	1.0	1.5
	DRA	.14	-.15	.10	.20	.26	.02	.34	1.1	1.5
	ART	.11	.04	.15	.72	.03	.19	.05	0.5	1.1
	LIT	.03	.05	.19	.21	.43	.23	.33	0.5	1.0
	SCI	-.13	.07	.22	.25	.57	.46	.31	0.5	1.1